

AMATEUR RADIO



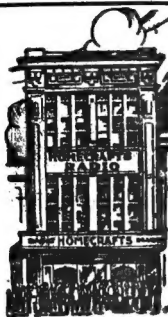
Published in the interests of Amateur Radio
by the W.I.A. (Vic. Div.). Official Organ
of all divisions of the W.I.A.,
and the R.A.A.F. Wireless Reserve



PRICE

6^d

AUGUST, 1936



HOMECRAFTS PTY. LTD.

211 Swanston Street

The Original Radio Suppliers offer—

**Special NETT
PRICES to HAMs!**

**Make Money in your Spare
Time!**

Your Recommendation carries weight with prospective Radio Buyers.

**You can sell Radio Sets and make a
Good Profit . . . !**

Consult Homecrafts now for Discounts and special "Ham's" Sales Proposition.

**Famous Astor
. . . Model 77**

Ideal Countryman's Radio used no B or C Batteries.

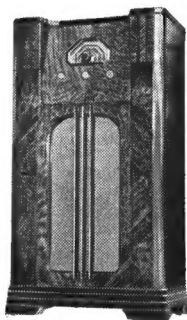
PRICE 30 Guineas

Also available in dual wave model

Liberal Discount



Full range of latest type of all Electric Receivers. Prices range from New '36 Mickey Grande £14-19-6 & 19 gns. for New Metal Tube Dual Wave Console to 33 gn for De-Luxe 7 valve dual wave.



HOMECRAFTS PTY. LTD.

211 Swanston Street, Melbourne, C.1 PHONE CENT. 8200

AMATEUR RADIO

Published by the Wireless Institute of Aust., Victorian Division.

Vol. 4 No. 8

1st August, 1936.

INDEX

Editorial	3	The N.S.W. Amateur Radio Exhibition	16
A Useful Transformer	4	The 1936 Australian-New Zealand International DX Contest	17
Putting the 804 to Work	5	Divisional Notes.—	
The Relay Rack	8	N.S.W. Division	19
Article Contest	10	Victorian Division	22
Noise Rejection in Simple Receivers	11	South Australian Division	25
The 1936 W.I.A. Fisk Trophy	12	Western Australian Division	25
VK-ZL 80-metre Telephony Contest	13	R.A.A.F. Wireless Reserve Notes	27
Federal and Victorian QSL Bureau	15	Tasmanian Division	28

Divisional Addresses :-

FEDERAL HEADQUARTERS BOX 2127L, G.P.O., SYDNEY
 NEW SOUTH WALES BOX 1734JJ, G.P.O., SYDNEY
 VICTORIA BOX 2611W, G.P.O., MELBOURNE
 QUEENSLAND BOX 1524V, G.P.O., BRISBANE
 SOUTH AUSTRALIA BOX 284D, G.P.O., ADELAIDE
 WEST AUSTRALIA 62 SUBIACO ROAD, SUBIACO
 TASMANIA BOX 547E, G.P.O., HOBART

MAGAZINE COMMITTEE:

W. R. GRONOW (VK3WG), Secretary.
 R. H. CUNNINGHAM (VK3ML), Technical.
 E. KILBORN (VK3KE), Distribution.
 V. MARSHALL (VK3UK) and C. SERLE (VK3RX).

All Communications and MSS. should be forwarded to the Editor, "Amateur Radio," BOX 2611W, G.P.O., MELBOURNE.

Subscription to "Amateur Radio" is 6/- per Annum (Post Free), paid in advance.

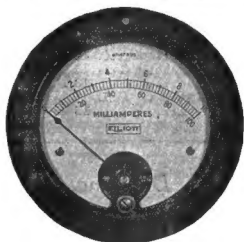
Should you not receive your copy of "Amateur Radio," notify your Divisional Secretary at once.

Advertising and Publishing Office: Address Publicity Manager, "Amateur Radio," 126 Whitehorse Road, Box Hill, E.11. Phone: WX 2429.

NOTE.—ADVERTISERS' CHANGE OF COPY MUST BE IN HAND NOT LATER THAN THE 20th OF THE MONTH PRECEDING PUBLICATION.

SIEMENS ELLIOTT

**British Radio Instruments
for Accuracy . . reliability
& service**



**Stocks of miniature instruments
available for D.C., A.C. and R.F.
measurements in moving coil,
moving iron, thermo couple,
rectifier Pattern**

● Submit your instrument problems to us
. . . or write.

SIEMENS (AUST.) PTY. LIMITED

**SYDNEY, MELBOURNE, BRISBANE, ADELAIDE
NEWCASTLE**

H. C. Little & Co. Ltd., Perth; W. & G. Genders Pty. Ltd. Launceston, Hobart, Burnie



Editorial

In view of the receipt by all amateurs this month of the Radio Inspector's Department circular on the 'phone question, a brief comment on the subject seems timely.

In the first place, the circular itself and the matter it contains show the happy spirit of friendly co-operation that exists between the Department and the amateurs of Australia. We, individually and as a body, can count ourselves extremely fortunate that the powers-that-be here have such a sympathetic understanding and appreciation of amateur radio.

This restrictive scheme has one aim and object alone—assisting the Australian amateur by organised regulation to get the maximum usefulness out of his very, very small band of frequencies. Some of us, perhaps somewhat selfishly, perhaps unthinkingly, have been occupying a great deal more than our share of these narrow bands, and the results of the new scheme will be, in plain language, "the greatest good for the majority." None of us like restriction at any time or of any kind, but no intelligent amateur could cavil at any of the new items listed. They are surely to be looked at more as a regulation of operating than as an actual restriction.

What sane amateur will not be delighted to know that the activities of the few who would aimlessly play record after record on the 7 and 14 M.C. bands at D.X. periods, to the annoyance of hundreds of his fellow hams, will now be curtailed? Can anyone have any criticisms of Item B that asserts that a 'phone transmitter must be properly controlled and also have a modulation system that

really IS worthy of the name? Some amateurs seemed to have a complex that a microphone placed anywhere in a transmitter could be capable of putting out 'phone. Again, we all know how many C.W. channels even a low-powered 'phone occupies, so there is no need to belabor the point; the regulation is merely logical.

The spirit of co-operation, that is the basis of our amateur code, will make new hams realise how necessary it is that they "cut their teeth" of experience on low power. Thus the item regarding a probationary period for new licensees is in their own as well as the old hams' interests.

We have just spoken of a "spirit of co-operation." Could we wish for a more perfect example than in the appointment of a Vigilance Committee in each State for the new scheme? No herd-binding law, with no latitude here, but a committee appointed to administer the regulations in accordance with the best traditions of our hobby. A first offence brings a warning, not the irrevocable machinery of the law. We have been given these regulations after months of careful consideration, in which we have been given every opportunity to make comments and suggestions. They are going to be enforced with the interests of the amateur in mind.

It is of interest to note that this subject has been on the agenda of our Federal Convention for some years, and at last our efforts have been rewarded. We have been offered the hand of friendly co-operation. As amateurs we accept it in the spirit with which it is given, and in return pledge our whole-hearted support of our Vigilance Committee.

Technical Article Competition

The donation of the Council of the N.S.W. Division for a Technical Article Competition came at a most unfortunate time. Some months ago we made a special request for such contributions, and the result was most pleasing. However, strange as it seems, the enthusiastic movement lasted only a few months, and the technical bag once again has dropped back. The appeal, we are sure, was not in vain, and there are many contributions that have not come along because of the feeling "Why not put off to-day what you can do to-

morrow?" on the part of many budding authors. Then, again, many may be at a loss to find a subject to deal with, thinking, perhaps, that one in mind would not be of general interest.

We are all amateurs that publish and read this magazine, not Doctors of Science nor highbrow mathematicians, and therefore realise that any contribution would be "as one ham to another." How much interest does one take on visiting a shack, taking note of the multitude of variations in design and lay-out? That is what we want on paper. Failing a constructional article, why not something of the station description type? Send them along and give us a lead, fellows. **AND KEEP IT UP!**

A Useful Transformer

(By A. Pritchard, VK3CP.)

The Ferranti OPMIC output transformer is designed for PP input, having a centre tapped primary. This transformer has the ratios 1:1, and step down 1.6:1, 2.7:1. By connecting the marked secondary as the primary, and there seems no difference regarding efficiency or quality, 14 different combinations can be used. With

the class BC RF final amp. and grid bias modulation, by connecting this transformer the many possible ways, the best combination is sure to be found. Using the 1:1 ratio should be ideal for the driver to class B grids. I have listed the 14 different combinations possible.

No.	Ratio.	Plate Current Through (Marked).	Used for Sec.
1 ..	1:1	Prim	1:1 ratio Sec.
2 ..	1:2	$\frac{1}{2}$ of Prim	1:1 ratio Sec.
3 ..	2:1	S, 1:1 ratio	$\frac{1}{2}$ of Prim (tap).
4 ..	1: $\frac{1}{2}$	S, 1:1 ratio	Prim with centre tap.
5 ..	1.6:1	Prim	1.6 ratio Sec.
6 ..	1:1.6	1.6 ratio Sec.	Prim.
7 ..	.8:1	$\frac{1}{2}$ of Prim (tap)	1.6 ratio Sec.
8 ..	1:8	1.6 ratio Sec.	$\frac{1}{2}$ of Prim (tap).
9 ..	1:8/.8	1.6 ratio Sec.	Prim with tap.
10 ..	2.7:1	Prim	2.7 ratio Sec.
11 ..	1:2.7	2.7 ratio Sec.	Prim.
12 ..	1.35:1	$\frac{1}{2}$ of Prim	2.7 ratio Sec.
13 ..	1:1.35	2.7 ratio Sec.	$\frac{1}{2}$ of Prim (tap).
14 ..	1:1.35/1.35 ..	2.7 ratio Sec.	Prim with tap.

. . SUPPORT YOUR ADVERTISERS

Putting the 804 to Work

(By VK3ML, Tech. Ed.)

The 804 transmitting valve is one of the new series announced by the A.W. Valve Co. Ltd. It is a screened grid tube, possessing as well a third grid or suppressor grid, which helps to overcome the several disadvantages of the pure screened grid tube. At the same time modulation of the suppressor grid offers an easy and economical method of carrier modulation, per medium of a very simple modulation stage employing one tube.

A tube of the same group that is well known to amateurs is the RK 20. Several outfits have been described in overseas journals using this tube in the layout, but so far nothing has appeared in "Amateur Radio." Having completed the rig depicted here, the writer thought that some practical notes on 804 type transmitter construction would be of value to a few of our many hundred hams.

Outlining the layout in conjunction with the circuit diagram, it will be seen that fundamentally it consists of a 6A6 crystal oscillator. First amplifier tube provides the necessary excitation on 160, 80, 40 and 20 metres to drive the 804 to 50 or more watts. The drive for each particular band will be taken off the plates of the 6A6, depending on the fundamental of the crystal. When frequency doubling the second triode section of the 6A6 is tuned to the harmonic of the crystal, and the 804 gets its drive right off the plate of this unit. Being un-neutralised, the second triode unit cannot be tuned to the fundamental of the crystal, and when the power amplifier is to work at the crystal frequency, a change of grid connection must be made to the plate of the first triode section. The second unit lies idle. S.W.1 is the switch referred to, and changes the grid of the 804 from plate coils 1 to 2 as desired.

Penthode transmitting tubes are noted for their low excitation requirements for C.W. operation, as well as a very small audio wattage for phone work. However, it should be borne

in mind that they demand practically as much excitation for PHONE work as any triode, that is, for the production of quality phone. Another feature to be noted is the high output impedance necessary for linear suppressor grid modulation.

Bearing these two primary requirements for penthode operation in mind, it was decided to have an excess RF drive for C.W. work, but sufficient for phone operation when required; hence the 6A6 oscillator was chosen to provide some 3-5 watts on all bands. High output impedance for the 804 was arranged by the use of low C in the plate tank circuit.

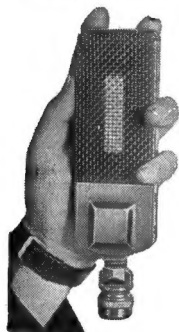


So much so for the general layout of the rig. Better operation will always result, of course, by employing two power packs instead of a common one. Voltage of 300 for the screened grid of the 804 is obtained from a series dropping resistor in the 1250 volt supply. The CO plates and the suppressor grid positive (C.W.) supplies are all taken from the voltage divider across the 300-350 volt power unit. The two triodes receive their supply via the common milliammeter (0-100 mills). The suppressor grid functions from 30 to 50 volts positive bias on C.W. However, S.W.2 changes this grid over to 40 volts negative via the modulation transformer (Radiokes class B output) when used for phone. It is better that this supply be obtained from a unit of good regulation

AUSTRALASIAN ENGINEERING EQUIPMENT CO.
PTY. LTD.

"Evans House" 415 Bourke Street, Melbourne, C.1

"Bruno" Velocity Mike



as used by

Leading American
Stations

||||

LIST PRICE £10-10-0

FULL PARTICULARS ON
APPLICATION

Has a Frequency response plus or minus db from
50 to 12000 cycles

BIRNBACH PORCELAIN INSULATORS

"BIRNBACH" Insulators are made in White and Brown Porcelain. Types with prefix J denote Jack Type for Standard G.R. Plug. All others are fitted with Screws.

For a Special Quote on these lines SEE US.

Type	Height	Price	Type	Height	Price
458	1	1/8	866	1 5/16	1/8
478	1	2/6	866J	1 5/16	2/-
478J	1	3/-	966	1in.	1/2
4125	1 1/2	3/-	966J	1in.	1/6
4125J	1 1/2	3/6	400	G.R. Plug	1/6



FINE GRANULE MICROPHONE CARBON

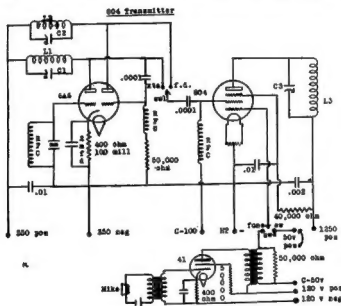
We have small supplies of this carbon in stock, of the Polished Granule Type which we can sell to Amateurs only at 12/6 an ounce nett.

such as B batteries. In this particular outfit a 40-volt tapping is taken off the main 120-volt C bias supply for the control grid of the 804, the positive of which is common to both grid returns.

Keying is performed in the cathode circuit of the 6A6 and permits a handy break-in medium as well as clickless keying. The key is put in circuit in this case via the phone jack and plug on the front panel. The second jack takes the modulator output and is connected to one arm of S.W.2 on the "fone" side.

As the circuit is quite conventional, further description would be super-

fluous. The 41 amplifier was more than sufficient to completely modulate the carrier. The 50,000 ohm resistor across the modulation transformer is for providing a load to the 41 tube which would otherwise work into one of infinite impedance owing to the wide voltage swing on the suppressor grid. As a suppressor grid modulated amplifier with the constants given here 21 watts of quality phone are easily obtained. To fully realise the advantage of the suppressor grid tube, it is essential that attention be paid to careful screening. A shield around the base and between the exciter stage and the power amplifier, as per photo., proved sufficient in the writer's case.



fluous, and interested readers are referred to one of the voluminous handbooks for further details.

The whole of this unit slides out from the wooden carrying case after disconnecting the wires from the aerial tuning condensers mounted on the side of the case. Power connections are all soldered to a power socket at the rear and which protrudes sufficiently for a cable plug to be inserted.

The small modulation unit to the left of the case is comprised of nothing more than that shown in the circuit diagram, with the exception of a volume control across the microphone transformer. It was found that with a single button mike the output of this

Circuit Constants.

- C1.—23 plate midget variable condenser.
- C2.—23 plate midget variable condenser.
- C3.—.00012 mfd. transmitting condenser.

Coil Data.

- Band, 1.75m.c.—L1, 45 turns 18 gauge; L2, untuned; L3, 32 turns 18 gauge.
- Band, 3.5m.c.—L1, 35 turns 18 gauge; L2, untuned.

Coil Data.

It is possible to have quite a combination of coils and crystals with the exciter. For instance, the 1.75m.c. crystal can be used on that band as

The Relay Rack

(By W. M. Moore, VK2HZ.)

The two main objections raised to the construction of steel relay racks seem to be, firstly, the financial aspect, and secondly, mechanical problems. The following, it is hoped, will clarify the latter, and to a degree lighten the former:—

The rack described in overseas journals as the standard relay rack has obtained its name from the fact that the sizes of this rack have been adopted as standard by the various telegraph and telephone companies throughout America.

The construction of such a rack in Australia, adhering strictly to all sizes, not only is a waste of time and money, but is practically impossible owing to the fact that suitable channel is not rolled out here. 4lb. channel is specified, but 5.6lb. is the lightest rolled. The channel not only is much heavier, but the flanges are also wider.

The majority of the sizes can be adhered to, but other factors can be varied to suit the purse of the builder.

The advantages of such a rack for the mounting of radio apparatus are very numerous, and up to date it is the best all-round method advanced, and is within the reach of the average amateur.

The cost of such a rack can be kept around £2, depending on the price at which the steel can be bought.

The following materials are required:—2 pieces 6in. x 4in. angle, 20 in. long; 2 pieces 3in. x 1½in. channel, 72in. long; 2 pieces 2in. x ½in. flat iron, 20in. long; 6 4½in. x ¾in. black bolts.

The method of assembly can be seen from the sketch. The 4in. side of the angle is bolted to the channel upright with two bolts at either end, the 6in. sides being in contact with the floor. The top of the rack is held with two bolts and one piece of the 2in. x ½in. flat iron bolted to either side of the channel.

The usual practice is to weld the assembly together. This method is rather costly, so bolts were substituted, and when they are suitably tightened they serve the purpose well, and also allow the rack to be pulled down in cases of a change of QRA, etc. 1/32in. clearance, i.e. 13/32in. drill for all bolt holes, provides ample allowance for any slight inaccuracies in the marking or drilling. The exact position of these holes can be well left to the discretion of the builder.

well as for 3.5m.c. and 7m.c. A 3.5 m.c. crystal can be employed for the next three bands, and if no more than second harmonic operation is desired, a 7m.c. crystal may be used for 14 m.c. Three crystals were used in this outfit. Thus it is only necessary to give the data on coils to cover all the bands, and the combination used can be left to the reader. All exciter coils are wound on Marquis formers and the PA plate, and aerial coils on 3in. formers. All aerial and exciter coils are wound with 18 gauge D.S.C. wire, as well as the 1.75 and 3.5m.c. P.A. plate coils. The 7 and 14m.c. 804 coils are made from ½in. copper tube. C1 and C2 are 23 plate midgets, and C2 .00015 mfd.

Band, 1.75m.c.—L1, 45 turns; L3, 35 turns; L4, 35 turns.

Band, 3.5m.c.—L1, 35 turns; L3, 26 turns; L4, 25 turns.

Band, 7m.c.—L1, 15 turns; L3, 12 turns; L4, 10 turns.

Band, 14m.c.—L1, 15 turns; L2, 8 turns; L3, 7 turns; L4, 6 turns.

As remarked above, the coil at L2 depends on the fundamental of the crystal used. When the 804 is hooked on to the first triode section any of the spare coils may be plugged into L2 to complete the circuit, but a slight increase in output is obtained if this circuit is tuned to the second harmonic and takes some of the load off the second triode plate.

Amateur Radio

The building of such a rack, including the accurate marking off of all holes, will present no difficulty to anyone with a slight mechanical training, but in the event of any uncertainty it might be as well to call in one of the boys who has spent some time as an engineer, and it should only take him an hour to mark the holes off.

should drill the holes for 5/-. Going back to the power drill, most engineering firms have a portable electric one, and a word in the right direction can often borrow it for a week-end.

The black bolts can be purchased at most large ironmongers. They will do as well as bright bolts after a clean up with a file, and will save a few shillings.

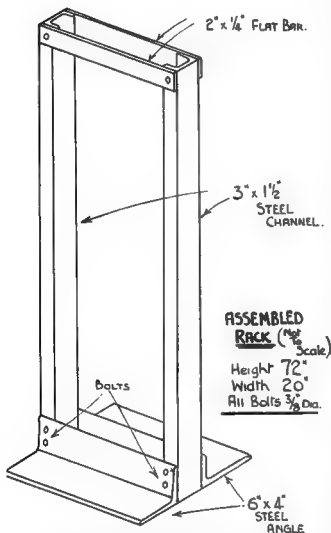
The rack can be then assembled, and the front chalked in preparation for the marking of the holes for the set screws that hold the panels. This portion of the building is perhaps the most intricate as it takes a little juggling to get all the panels interchangeable. One way out is to cut a panel of the height you will be using out of three-ply or light metal, and mark and drill it with holes suitable for the holding. This panel can be then accepted as standard. The face of the rack can be marked in panels of the decided height, and then the panel can be used as a template to mark the panels off, and so all panels should be interchangeable one way anyway. The drilling can be done either with the borrowed drill, or again resort to the local engineer, who will charge about 7/6 for the job.

The width of the rack is 20in., and panels can be made that width, or 19½ in., which adds slightly to the appearance.

The materials for the panel can be either bakelite or metal. The ones in question are slightly unusual, being made of Tilux, an ashes or material used for the facing of bathrooms. It and similar materials are available in various colours and effects, some yellow and blue; but those not being so suitable, a light grey was chosen. Tilux can be worked reasonably well, and is quite a fair insulator on DC, but on RF its value is not known. Anyway, all parts can be mounted away and extensions used for condensers, etc. It is only 7/6 a square yard. 5/16in. nickel-plated set screws can be used to hold the panels in place. The holes in front are drilled 3/16in., which is tapping size for 5/16in. screws. The panel holes in the rack are then tapped.

The sub-panels can be held by four bolts to the front panels, and if the

(Continued on page 16.)



The materials can be bought from any steel merchants at a cost of 25/- to 30/-. The steel will be cut to the required length, and should need no further machining. To make sure, add a rider to the order stating you want the steel cut to the exact lengths.

The first procedure is to mark the 13/32in. holes off at the bottom and top of the rack. If a power drill is available to take up to a 13/32in. drill, the holes can be drilled at home; if not, the materials can be taken to the local mechanical engineer, and he

Are YOU a Member of the W.I.A.? If not; Why not?

Article Contest

The Council of the N.S.W. Division has generously donated a prize of one guinea to the Magazine Committee as an award for the most outstanding technical article received from members of the W.I.A. by 31st October, 1936.

Conditions are that any article received from members must be accompanied by circuit diagrams and photos. (if available). Entries may be of constructional, theoretical or practical nature, and the Editors will be the sole judges.

Now, gang, have a look at that transmitter, receiver or piece of laboratory apparatus, write it up, and win that £1/1/-.

King's Birthday Congratulations

To W.I.A. (Vic. Div.) via G6WY, ZL4BQ, VK2QV, VK3ET.

His Majesty the King—Radio Society of Great Britain, in reply to loyal greetings from W.I.A.

"I am commanded by H.M. the King to convey to your Council of Executive of Incorporated Radio Society of Great Britain, His Majesty's sincere thanks for the congratulations addressed to him on the occasion of his birthday.

"The King also appreciates the many loyal greetings from Radio Amateurs in all parts of the Empire, which were transmitted in your letter of June 13.

(Signed) "Sir Godfrey Thomas."



QST & A.R.R.L.

One year to QST (12 issues) and membership in the American Radio Relay League, with membership diploma, all for 19/6. No waiting for the usual three months. Your Magazines begin to arrive by return post upon receipt of your remittance.

RADIO—R/9

These two magazines are now combined and the result is a work no "ham" or experimenter can afford to be without. January, February and March issues all sold; we have cabled America for more. Rush 2/- and 3d postage for April issue.

Radio Amateur Handbook 1936 !!!

Have you had your copy. Twice as large usual price 7/6 plus 1/- postage.

McGILLS AGENCY, 183-5 Elizabeth St, Melbourne
[The G.P.O. is opposite] Telephones Central 8113-5



Noise Rejection in Simple Receivers

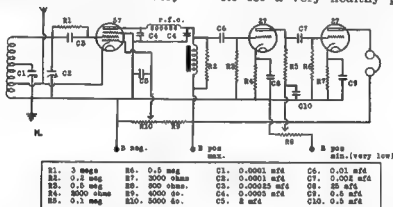
(By VK3MK.)

Undoubtedly the most annoying feature of reception in districts where electric power is available is QRM from electrical appliances.

As the writer lives very close to the centre of a city that has just completed a change-over from D.C. to A.C., and is therefore the home of very

zero, and an extra stage of audio added to bring the volume back to normal.

The practical results here—one type of QRM was R7 and is now R2; on 3.5 m.c. where the harmonic of a B class station two blocks away is generally R9 for a very healthy piece of ham



numerous "universal" electric motors for driving fans, drink mixers, and other comforts in its hot climate, receiving DX and frequently VK and ZL signals was often a problem, as the receiver used was only a two-tuber. At quiet periods this receiver was ample because of the lack of QRM from QRO locals, there being none.

In a very recent issue of "QST" there appeared an article on "Output Limiters" by W3LW. This described a very simple system of noise reduction—merely reducing the output to a very low value. The effect of this is to decrease the noise to the same level as the signal. As electrical noise generally has a very peaked wave form, it will be found that when the noise peaks cannot increase to any marked degree above the signal electrically, they are almost inaudible. This effect depends, of course, on the wave form of the noise.

The circuit of the remodelled receiver is shown in the accompanying diagram. It is the "Simple Receiver" of the "Handbook," with the first audio plate adjustable down to almost

band, it is now possible to receive R4 C.W. sigs up to the edge of the carrier of the harmonic. Ordinary QRN is also reduced, and another very definite advantage, here, at least, is that where it was advisable to cut the receiver out when sending—for comfort's sake—it is now possible to leave it tuned to station being worked—at its most sensitive position.

It certainly is a simple and inexpensive idea, and there is one VK ham at least who is glad he tried it.

TRANSMISSION SCHEDULES. AUGUST, 1936.

VK2ME.

Sydney Time.	GMT.
Sundays, 3 p.m. - 5 p.m.	0500-0700
Sundays, 7.30 p.m.-11.30 p.m.	0930-1330
Mondays, 1.30 a.m.- 3.30 a.m.	1530-1730

VK3ME.

Melbourne Time	GMT.
Nightly,	
Monday to	
Saturday	
(inclusive) 7 p.m.-10 p.m.	0900-1200

The 1936 W.I.A. Fisk Trophy

The fifth contest for the Fisk Trophy will be run during the middle of September. The Fisk Trophy was originally donated by Mr. Fisk, of A.W.A., and is the subject of contests between the various State Divisions of the Wireless Institute of Australia.

Victoria and Queensland Divisions have both won the contest twice, and if either wins they will hold the trophy for good.

The forthcoming contest is of an Interstate nature and is similar to the contest of last year, which proved such a success. The system of bonuses has been retained with one addition, a 500-point bonus for an interstate contact on 5 metres and adds even more interest in the test.

The scoring may be a trifle complicated, so a formula has been arranged which should clear up any misunderstanding.

The grand total score equals:—

(A x B) plus (50C plus 20D plus 20E plus 30F plus 100G plus 500H).

Where A equals number of contacts.

B equals number of States worked.

C equals number of States contacted on 160 MX.

D equals number of States contacted on 80 MX.

E equals number of States contacted on 40 MX.

F equals number of States contacted on 20 MX.

G equals number of States contacted on 10 MX.

H equals number of States contacted on 5 MX.

The above formula will give the score claimed by any station in the contest.

Rules are as follow:—

No. 1. The contest is open to all licensed amateurs, but only members of the Wireless Institute are eligible for either prizes or point score in the Fisk Trophy.

No. 2. The times of the contest are as follow:—From 1400 Eastern Standard Time, Saturday, 12th September, till 2359 E.S.T., Sunday, 13th September, and again from 1400 E.S.T., Saturday, 19th September, till 2359 E.S.T., Sunday, 20th September.

No. 3. The test is of a contact nature, and with each contact a 10-letter cypher must be exchanged before a point is scored.

No. 4. Stations with which an entrant can work are stations in Australia and New Guinea, outside the competitor's own State. When such a station is contacted and cypher exchanged, one point is scored. No exchange, no points scored.

No. 5. Any station can be contacted once on each band each weekend.

No. 6. States are as follow:—VK2, VK3, VK4, VK5, VK6, VK7, VK8 and 9 combined.

No. 7. Licensed power must not be exceeded and infringements of the P.M.G.'s regulations may mean disqualification.

No. 8. One point is scored for each cypher exchanged. The total points are then multiplied by the number of States worked (as defined in Rule 6).

No. 9. Bonuses will be added to the score after multiplying (Rule 8). The bonuses are as follow:—

Contacts on 160 MX.—50 points for each State worked.

Contacts on 80 MX.—20 points for each State worked.

Contacts on 40 MX.—20 points for each State worked.

Contacts on 20 MX.—30 points for each State worked.

Contacts on 10 MX.—100 points for each State worked.

Contacts on 5 MX.—500 points for each State worked.

(Continued on page 14)

VK-ZL 80-metre Telephony Contest

The N.Z.A.R.T. in view of the many DX contests operating these days, organised an 80-metre Telephony Contest for their members, and the W.I.A. is co-operating to make it an Australasian affair. The contest is quite a novel one, and the manner of scoring points is quite unusual.

The following are the complete rules:—

1. All entrants must be financial members of either the N.Z.A.R.T. (Inc.) or the W.I.A.
2. The contest shall be by means of amateur radio telephony transmissions on the 80-metre band only.
3. There shall be two sections of the contest (1) Transmitting; (2) Listening.

TRANSMITTING SECTION.

4. The contest will commence at midnight, Saturday, 15th August, 1936 (New Zealand Standard Time), and finish at midnight, Sunday, 30th August, 1936 (New Zealand Standard Time).
5. Seven days' operation only will be allowed. The days of operation need not necessarily be on consecutive days. To come on the air calling for the contest or to send a question as provided for in Rule 6, is sufficient in either case to establish operation for that day.
6. During the course of each two-way transmission (QSO), each station will exchange QSA, R, reports, answer a question asked by a previous station contacted and ask a question of the station being worked. Questions asked and answered shall appertain to radio and in both cases shall consist of a sentence of between eight (8) and twelve (12) words.

(Example: VK9ZZ has worked ZL4PX and is now working ZL1TR. ZL4PX asked the question: "Do you prefer crystal control to master oscillator control?" VK9ZZ gives ZL1TR

his QSA, R, report and tells ZL1TR, "My answer is 'I prefer crystal control for my station.' My question is 'How many tubes in your transmitter and receiver?'" ZL1TR has to answer the question asked in his next QSO, and then ask his question of the station being worked. In his next QSO, VK9ZZ will answer the question asked him by ZL1TR). The same question cannot be asked twice by the same station.

7. No time limit to be imposed on any QSO.
8. No schedules permitted.
9. No station to be worked more than once.
10. Only one operator permitted per station.
11. All transmissions to be in accordance with Government regulations.

12. The points to be allotted for each QSO shall be as follow:—

North Island ZL station contacting a South Island ZL station (and vice-versa) . .	5 pts.
ZL station (any district) contacting VK2 station	12 pts.
VK3 station	14 pts.
VK4 station	16 pts.
VK5 station	18 pts.
VK6 station	24 pts.
VK7 station	10 pts.
and vice-versa for VK stations, i.e., a VK2 scores 12 for each ZL contact, and a VK3, 14, etc.	

13. A log shall be submitted showing the operator's name, call-sign, location, date and time of each QSO, station QSOed, QSA, R, reports, question answered, question asked, and points claimed. Logs from New Zealand entrants must reach N.Z.A.R.T. (Inc.), Box 489, Wellington, N.Z. not later than 30th September, 1936. Logs from Australian entrants must reach Federal Headquarters, W.I.A., Box 2127L, G.P.O., Sydney, N.S.W., not later than 23rd September, 1936.

14. Prizes will be awarded to the winning two stations in New Zealand by the N.Z.A.R.T. The W.I.A. will award two prizes to the winning stations in Australia.

15. The decision of the Contest Committee in all matters shall be final.

LISTENING SECTION.

16. Rules 1, 2, 4, 5, 8, 9, 10, 13, 14 and 15 of the preceding section shall apply to the listening section, substituting as applicable "Listening" and "heard" for the words "calling," "worked," "QSOed" and "contacting."

17. A listening entrant's log shall contain the following information:—Operator's name, location and licensing district number, date and time of each QSO heard from each station, QSA, R. reports, question answered and question asked by each station heard, and points claimed (as detailed in the following Rule). (Also see Rule 19.)

18. Points will be allowed for each individual station heard competing in the contest on the same scale as detailed in Rule 12, substituting for the word "contacting," the word "hearing."

19. To each log must be attached a declaration that the entrant is a financial member of his national society, that he is the only one to work the station the log of which has been submitted, and that he only operated his station in the contest for seven days and did not come on the air with the intention of entering into the contest on any of the remaining days.

As it is proposed to use the logs submitted for statistical purposes when finished with for the purposes of the contest, it is urgently requested that all entrants, in both sections, make general remarks on QRN, QSB,

and any other factors that will assist the person collaborating the data for the Zodiacal and Aurora Section of the Astronomical Society.

(Continued from page 12)

The sum of bonuses plus those points scored as in Rule 8 will constitute the grand total score.

No. 10. The cypher to be exchanged consists of ten letters, the first five being chosen by the entrant and to be used as his identifying letters throughout the contest. The remaining five letters are to be the first five letters of the last station contacted. The initial cypher should consist of the five letters of the originating station, plus five "A's", i.e., XYZAB—AAAAA.

No. 11. All logs must reach the Federal Executive, Box 2127L, G.P.O., Sydney, N.S.W., by the 30th October. The logs must contain (a) Time, date, and call-sign of each station worked; (b) Cypher sent and received at each contact; (c) Points claimed, contact points and bonus points.

No. 12. The Fisk Trophy will be awarded to W.I.A., State Division, whose points total of the leading three stations is the greatest. If less than three stations enter in any State, the sum of the scores will represent their State's total.

No. 13. The decision of the Federal Headquarters Executive of the W.I.A. will be final and binding in all matters.

The new council and office-bearers of the Victorian Division consists of Mr. W. R. Gronow, President; Mr. R. A. C. Anderson, Secretary; Mr. J. Marsland, Treasurer; Mr. E. Kilborne, Assistant Treasurer; and Messrs. G. Thompson, R. Dalton, I. Morgan, M. R. Campbell, C. Woodward, and H. Stevens, Councillors.

QUARTZ CRYSTALS

Every Crystal tested to 50 watts input to Penthode Crystal Oscillator
Accurate grinding to .03 per cent. 3.5 M.C., 20/-; 7 M.C., 30/-
100 K.C. Xtals. 465 K.C. Xtal "Gates. Prices on application

PROMPT DELIVERIES

MAXWELL HOWDEN (VK3BQ) CONS. RADIO ENGR.

13 Balwyn Road, Canterbury, E.7.

Federal and Victorian QSL Bureau

Conducted by VK3RJ, Federal QSL
Manager.

"Radio Universul," the organ of the newly - formed Roumanian Society, A.A.R.U.S., is an attractive and well-illustrated journal, containing many new features. The average ham's knowledge of the Slav tongue is, unfortunately, extremely limited.

George Every, VK3GE, ex VK7GE, is now located at Franklin Barracks, Portsea.

Copies of the new Metropolitan Traffic Code are available on application to the Bureau. W.I.A. traffic managers should find it helpful.

The long-awaited regulations by the Radio Branch have at last been promulgated and distributed to all hams. It is hoped they will be rigidly enforced and thereby banish "canned music" from the 7 and 14 m.c. bands for all time. The prohibition of the use of fone on any band by new hams during their probationary period of

six months is a splendid idea.

Stations are exhorted to support the DASD Jubilee Dx Contest arranged to take place during the five week-ends of August. As DASD members were the strongest supporters of our Centenary and VK Dx contests of 1934 and 1935, it is fitting that we should reciprocate. Full details of the contest appear in the June "Amateur Radio."

Cards for the following VK3 stations are on hand. Send a stamped envelope to the Bureau: 23 Landale-street, Box Hill. VK3AD, AP, AT, BL, BS, CA, CK, CM, DS, EF, ER, ES, FB, FM, FN, FQ, GA, GB, GF, GJ, GW, GY, HN, HO, HY, IL, IT, JZ, KA, KI, KV, KY, LG, LS, LY, MK, MX, NA, NG, NJ, NR, OI, OU, OX, PA, PC, PS, RE, RM, RQ, RW, SB, SE, TE, TW, TZ, UJ, VL, WX, WH, WZ, XA, XU, YF, YL, ZB, ZK, ZL, ZO, ZW, Peters, Hampton, Nye, Seblre.

● ● ● Birnbach Insulators



At our Price no Ham would be without them.

Stand off-Feed thru-Antenna

**Eimac Tubes from Stock
35T; 50T; 150T**

**National Transmitting
Equipment**

**Accredited Australian Agents for
BLILEY CRYSTALS**

**ELECTRONIC COMMUNICATIONS LTD. Box 300 P.O.
Newcastle**

The N.S.W. Amateur Radio Exhibition

The Amateur Exhibition, sponsored by the W.I.A. and held in Sydney during the week, 15th to 20th June, was a tremendous success in every way, and the results must be very beneficial to prestige of the amateur in N.S.W. To describe fully the exhibition and its functions would take too many pages of the magazine. So the highlights will be just mentioned briefly, together with the prize-winners.

Open 15th June from Hartford by Mr. F. E. Handy, of the A.R.R.L., introduced by Mr. E. T. Fisk, of A.W.A. Opening great success, F. E. Handy's voice, QSA5 via W2XAF. 23 stands, 13 trades, 5 affiliated radio clubs. Television display created great interest. £80 worth of prizes. American two-way telephony, QSO's from hall via VK2WI. 600 in attendance at opening. Show creates splash in daily press. 5MX telephone. P.M.G.'s exhibit on interference received with acclamation. A. G. Hull, recently returned from America, lectured on Television. Over 3,000 attended during week.

TRADE STALLS.

Members of trade adhered practically without exception to the limiting of exhibits to apparatus for the experimenters, with the result that the stands were of exceptional interest to the amateur and it was really surprising the amount of gear available which the average experimenter had never seen. Price's Radio Service, A. W. Valve Co., Ducon Condenser Pty. Ltd., Colville Wireless Equipment Co., Oxford Radio, Amplion Ltd., Noyes Bros., R. C. S. Radio, Philips Lamps, J. B. Martin and Paton Electric all showed apparatus of value to the "Ham."

COMPETITIONS.

The judging of the competitions was conducted by sectional judges during the exhibition and the results are as follow:—

Best stall of the Radio Club affiliated with Wireless Institute of Australia, "Wireless Weekly" Cup—Zero Beat Radio Club; special mention, Lakemba Radio Club.

Best Piece of Apparatus on Club Stalls—1, W. G. Ryan, VK2TI (Transmitter); 2, C. Preston Smith, VK2QK (Super. Het.); 3, J. Fairweather VK2FV (Amplifier); 4, A. Gibbons VK2BT (Oscilloscope).

OPEN COMPETITIONS.

Transmitter — B. Dimmock, VK2OW; 2, W. J. Ryan, VK2TI; 3, C. Wilkins, VK2WQ.

Receiver—1, B. Dale, VK2XX; 2, P. Adams, VK2JX; 3, R. Cohen, VK2TF.

Portable Station — 1, J. Cowan (Adamstown), VK2ZC; 2, A. J. Brown, VK2IK; 3, R. Corthorn, VK2VG.

U.I.F. Receiver—1, B. Smith, VK2IV.

U.I.F. Transmitter—1, M. Lusby, VK2WN; 2, B. Smith, VK2IV; 3 (tie), K. J. Burnett, VK2BJ, and E. Hodgkins, VK2EH.

Piece of Apparatus—1, C. Bischoff, VK2LZ; 2, D. Millen, VK2DU; 3, B. Dukes, VK2WD; 4, J. Parris (Deniliquin), VK2DN.

SPECIAL PRIZES.

Television Display—G. Welis, Esq.

Novelty Special—North Suburban Radio Club.

Distance—R. Ross, VK2IG (Albury).

The above complete the prize list at the exhibition. The Wireless Institute of Australia appreciates the co-operation afforded it in making the exhibition an unqualified success.

(Continued from page 9)

apparatus is very heavy a light supporting angle can be mounted at the back of the channel uprights to take the weight of the protruding sub-panel.

The whole assembly can be given a coat of Duco or Dynamel of colour to suit. It is always advisable to clean the steel well, removing all rust and as much mill scale as possible before painting.

The construction of such a rack will give the amateur something of a permanent nature around which rigs can be built for years to come.

The 1936 Australian-New Zealand International DX Contest

Promoted by South Australian Division Wireless Institute of Australia, under supervision of the Federal Executive and with assistance and co-operation of the New Zealand Association of Radio Transmitters.

Rules Manager: Mr. G. B. Ragless,
VK5GR.

There will be three contests:—

- (a) Open Section.
- (b) Handicap Section.
- (c) Receiving Section.

1. The W.I.A. Contest Committee will be the sole judges and all rulings and interpretations will be binding in the case of any dispute.

2. The nature of the contest requires contacts between the World and VK - ZL.

3. The contest is open to all licensed transmitting and receiving stations in any part of the world. Unlicensed, ship and expedition stations are not permitted to enter. Financial members of the W.I.A. and N.Z.A.R.L. only will be eligible for awards in VK—ZL.

4. Only one licensed operator is permitted to operate any particular station. Should two or more operators operate at the same station, each will be considered a competitor and must enter under his own call sign, and submit in his log contacts established by him. This debars persons entering who have no amateur licence.

5. All amateur frequency bands may be used.

6. No prior entry is required, but each contestant is to submit a log at the conclusion of the contest showing date, time (GMT), band, station worked, signal reports exchanged, and points claimed for each Q.S.O. Signal reports must include strength, tone, readability. Note: No serial numbers are to be exchanged.

7. The contest will be held from 1200 GMT, October 3rd, to 1400 GMT, Sun-

day, October 4th, and will be continued between the same times on each of the four (4) following week-ends, October 10th and 11th; 17th and 18th; 24th and 25th; and 31st and November 1st, 1936.

8. Scoring for VK—ZL Contest:—Twelve points will be scored for the first contact with a station in a country other than VK—ZL. Eleven points for the second, ten for the third, and so on, until the twelfth, which will score one point. The first twelve contacts with a particular country will score 78 points. Each additional contact after the twelfth will score one point. In all cases contacts are irrespective of the band used. This will apply to all countries except England and the United States of America; in these two countries twelve or more (as above) contacts will be permitted with stations having the following prefixes: G2, G5, G6, and W1, 2, 3, 4, 5, 6, 7, 8, 9. The points scored by contacts in the above manner will be added together and multiplied by the number of countries worked, which will give the final score, except in the handicap section, where the grand total will be divided by the input (PA to Aerial in Watts) which will give the final score.

9. Scoring by competitors beyond VK—ZL: Twelve points will be scored for the first contact with a VK—ZL prefix zone, eleven for the second, ten for the third, and so on, to the twelfth contact, which will count one point. The first twelve contacts with a particular prefix zone will therefore score 78 points. Each additional contact after the twelfth will count one point. This will apply to each VK—ZL prefix zone worked. The points scored in the above manner will be added, and the total multiplied by the number of VK—ZL prefix zones worked, which will give the final score. The prefix zones are VK2, 3, 4, 5, 6, 7, 8, 9, and ZL1, 2, 3, 4.

10. Only one contact with a specific station on each of the bands will be permitted to count during the whole of the contest except on the 28 m.c. bands, where one contact each week-end will be permitted to count.

11. All VK—ZL stations entering in the handicap section must state their desire to do so and give the power input to valve feeding the aerial. Input in the handicap section must not exceed 25 watts.

12. Entries from VK stations must reach the W.I.A. Contest Committee, Box 284-D, G.P.O., Adelaide, not later than December 1st. All overseas logs must reach the same QRA not later than December 31st, 1936. Entries from ZL stations must be sent to the N.Z.A.R.L., Box 489, G.P.O., Wellington, N.Z., not later than November 25th, 1936.

RECEIVING CONTEST.

1. The general rules for the receiving contest are the same as for the transmitting contests, and is open for any short wave listener in the world except New Zealand, where only members of the N.Z.A.R.L. can compete in receiving.

2. Only one operator is permitted and only one receiver can be used.

3. The dates, times, scoring of points and logging of stations, one band for the duration of the contest, are the same as for the transmitting contests. Note: Reception of 28 m.c. stations will be permitted to count for once on a week-end, and not once only for the duration of the contest.

4. To score points the Call sign of the station being called and the readability, strength, and tone of the calling station must be entered in the log, together with band, date and time. Logging of CQ on test calls will not count. Note: Overseas stations must be logged when either calling ZL or VK stations by Australian or New Zealand listeners. Overseas listening stations must log VK—ZL stations when they are calling overseas stations.

5. Australian and New Zealand stations will count their score as Rule No. 8 of transmitting contests.

6. Overseas listening stations will count their score as per Rule No. 9 of the transmitting contests.

7. Entries must be sent as per Rule No. 12 of the transmitting contests.

AWARDS.

Attractive certificates will be awarded to the station returning the highest total in each country and to the highest scorer in each of the G and W prefix zone districts and Canadian districts in the transmitting (open) and receiving sections.

A trophy will be presented to the highest total made by a contestant in the Commonwealth and a trophy to the highest total made in each of the other five leading States.

A trophy will be presented for the highest score for the Commonwealth in the receiving and handicap transmitting sections.

Certificates of performance will be awarded with each trophy.

Certificates or special prizes may be awarded at the recommendation of the Awards Committee.

Awards for New Zealand participants will appear in the official organ of the N.Z.A.R.T.

The Council of the South Australian Division of the Institute desire to thank the following for donations to the prize list:—A. G. Healing & Co. Ltd., Oliver J. Nilsen, J. Cawthron, D. Glanis, and R. Parasiers.

COMMENTS ON RULES.

Rule 3.—Competitors must be financial members of their State Division of the W.I.A. at the time of the contest to be eligible to receive an award.

Rule 8.—Each W and G prefix district will not constitute a separate multiplier (country). Contacts with all of the prefix districts of these two countries will only constitute a multiplier of two.

Rule 11.—Competitors in the handicap section must state their desire to enter in the section when forwarding reports at the end of the contest and cannot receive a prize in the open section.

Divisional Notes

N.S.W. Division

W. G. Ryan, Secretary, VK2TI, Box 1734JJ, G.P.O., Sydney.

COUNTRY ZONE OFFICERS.

ZONE 1 (Far West)—

J. Perroz, VK2PE, Hope Street, Bourke.

ZONE 2 (North-West)—

H. Hutton, VK2HV, Byron Street, Inverell.

ZONE 3 (North Coast)—

R. J. Berry, VK2NY, 54 Bacon Street, Carlton.

ZONE 4 (Hunter River and Coalfields)—

S. Grimmett, VK2ZW, 161 Tudor Street, Hamilton.

ZONE 5 (South Coast and South-West)—

R. Ross, VK2IG, 673 David Street, Albury.

ZONE NOTES FROM THE NORTH COAST.

2AO back on air, has nice C.C. note now. 2CJ under R.I.'s ban and unable to operate during B.C. hours. Hard luck, Bill! 2ZM still continues to have marathon QSO's on 80m.x. each Saturday night. Takes all the week to recuperate. Hi! Reported that 2WS is staging a "come back." 2GM putting out an f.b. from new QRA. 2UU has sig. that sounds like a kilo-watt. A listener reported hearing 2NY calling "Slick Yow" (C.Q.). (Listener probably in China. Hi!). Conditions on 80m.x. appears to be good now, judging by all the duplex. 40m.x. quiet at night, except for little dx; 20m.x. still holding up for W contacts on fone, as plenty Europeans in a.m.

NEWCASTLE NOTES.

(By VK2RF.)

The influx of associate members has been so great that a special class is now held every Thursday night for coaching. Code practice and lectures are held under the guidance of transmitting members.

TY worked a K6, his first DX.

Dave, BZ, has settled down at his new QRA, and has no trouble in raising Yanx on 40m.x.

OE is also getting out well on this band, and has worked several VE's.

Congratulations to ZC, whose portable station won first prize at the

Amateur Exhibition. Jim demonstrated the transmitter, which is a 25-watt c.c. job, and quite a few club members would gladly have exchanged their best rig for this "portable" outfit.

The unusual 20m.x. condx. experienced in the early winter have fallen away and this band is now acting more like itself in previous years.

The half-yearly 12-hour club DX contest will probably be held during the second week of August, in conjunction with a contest for club receiving stations.

CS is regularly on the broadcast band with his fone, and is thinking of installing a new mike to improve speech quality. Reports on his transmissions have been received from New Zealand.

NORTH SHORE.

2ACJ and 2ACL both work ZL on 80, using one-stage crystal rigs, and find that the signals get over quite well. 2ACF, of Longueville, has had to shift his QRA to Northbridge, but hopes to be back on the air as soon as possible. 2BJ continues to broadcast the W.I.A. news sessions on Wednesday nights on 80 and Sunday mornings on 40, with that much-admired methodical and patient spirit that only Keith possesses. Regardless of the unending QRM, VK2WI still carries on. As anticipated, 2DR staged a "come-back," having grown tired of his newly-acquired hobby, or, perhaps, has combined the two.

2DU!! Whereabouts are you now, Dud? 2FV has gone to Queensland for vacation, taking with him portable crystal transmitter and receiver. 2GD is quiet around Roseville, must be QRL with work. 2HA will shortly have his rig rebuilt and incorporating a 6P6 as suppressor grid modulated buffer with a ten as linear amplifier. 2HL will shortly be on 5m.x. and wants all the boys to rally round. 2BJ, 2NN, 2VG, 2VP, 2ACJ, 2ACL, have promised to start up in order to compete in the coming W/VK 5-metre contest. All Hams on the North Shore or anywhere are requested to give this band a trial and, if possible, to get

Amateur Radio

in touch with any of the above. 2HZ's familiar fist heard on 80 during the month, so guess the exhibition must be over. 2IP works the Yanks on 40 at night with a pure crystal T9 note which would be f.b. for fone.

2LA heard again on 40 pretty strongly on this side; must be back in the old district again by the sound of his sig. 2LD has a beautiful modulated r.a.c. crystal signal near the high frequency end of the band now. 2NN, in Roseville, did quite a lot of c.w. QSO during his sick leave. 2NV is building broadcast receivers. 2PV makes his ten work plenty when he is on, but that is not very often. 2QF is not heard very often from Crow's Nest, but is on from Manly with a portable sometimes. 2SS's T9SE sig. has developed a decided chirp and dropped in tone to T7 on several occasions, thus losing much of its previous prestige. 2VE, although QRL with work, manages a little Telefunken on 80 at nights. 2VI has perfect T9 sig. in the middle of 40 and can find plenty of Yanks. 2VL is another very fine sig. for SE, and compares favourably

with 2SS's old note; Yanks are also easy to Jim. 2VN also puts out a T9 crystal sig. now-a-days; must be the call of fone that makes the boys pure! 2VP, having a bad backwave, substituted his link coupling for capacity coupling and cured the trouble, but since found out that the lack of a common earth on his rig was the trouble so back went the link coupling and all was O.K. 2XC back on the air again after some time and puts out the familiar sig. on both 40 and 20. 2YA went to Gosford for a couple of weeks teaching and took a portable with him, but could only work Sydney during the daylight; sigs. faded out at night on 40. Unfortunately the rig was only on that band.

THE NORTH SUBURBAN RADIO CLUB, CHATSWOOD.

(Affiliated with the W.I.A.)

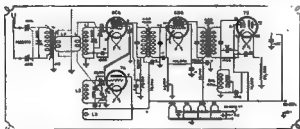
The membership of this comparatively new club has been increasing every week since the Amateur Exhibition and promises to be of fair dimensions if the present rate of applications for membership continues. Four

For all AMATEUR GEAR

Transmitter Name Plates
as Illustrated 4d each

Metal Condenser Scales
as Illustrated 2 3/4" diam 1/6 each

NAME PLATES



WRITE FOR SPECIAL HAM LIST!

PRICE'S RADIO SERVICE

"The Ideal Amateur Super - Het"

Published in the Sydney Bulletin

Complete Kit of Parts including Valves & Power Pack £12/7/6

(D. G. McINTYRE), 5 & 6 Angel Place, Sydney.

prizes were won by its members on the Club stand in the recent Amateur Exhibition. The club transmitter, which will consist of 53 crystal oscillator, 46 buffer and 210 final, will shortly be completed and operating. The whole rig is built up on a six-foot steel rack and panel housing, power supply, etc.

Meetings are held at the Soldiers' Memorial Hall, Chatswood, every second Tuesday for all members, and every other Tuesday at No. 1 Bowen-street, Chatswood, for the Ham members. All are welcome, and if there are any intending members, please get in touch with the President, VK2BJ, or the Secretary, VK2VG.

This club was initially intended for a Ham club only, but owing to the lack of co-operation from the North Shore Hams in general, it was decided by the enthusiastic few who initiated the venture that short-wave interests be catered for and S.W.L.'s be asked to join the gathering, together with anyone else desiring the knowledge of short wave radio.

ZONE 5 NOTES.

SOUTH COAST AND RIVERINA.

VK2IG.

Conditions are very poor on all bands, and very few contacts, either DX or local, can be made. 20J—completely remodelled with tail-light globes ad lib. 2QE—Busted his bike and 2IG repaired it; he is not on much, but has confirmation from EI.

2EU is trying Telephony.

2QD had the mumps, but O.K. with the transmitter in bits.

2VK believes in co-operation. Here's how:—He borrows OJ's advice, IG's neon and QE fixes the receiver, puts a book on the key, and dashes down to UE's to listen to it.

2IG pulled the rig to bits and spring-cleaned, but it doesn't work natural any more.

How about some of you other chaps in this zone dropping me a little dope?

THE JULY MEETING.

The July meeting of the N.S.W. Division was held at the Y.M.C.A. on the 16th.

The Senior Radio Inspector, Mr. W. T. S. Crawford, was in attendance to present the £80 worth of prizes won by amateurs at the Radio Exhibi-

tion. Mr. Crawford expressed the fact that he was very pleased with result and usefulness of the exhibition, and offered to the Institute a trophy for competition amongst amateurs and to be awarded to the best all-round operator.

VK2JU, Mr. J. Moyle, was elected to the Council in place of VK2MY, Mr. J. Macgregor, who recently resigned.

LAKEMBA RADIO CLUB, VK2LR.

(Affiliated with the W.I.A.)

(By 2DL.)

Owing to increase in membership the above club has once again found it necessary to move to larger premises, situated at The Sunrise Hall, Canterbury-road, Canterbury (near the railway station). The total membership is about 70, over half of whom hold transmitting licences.

The month of August will be a "Come back to five" month, when about eight members will be holding regular schedules on five metres. The five-metre group in particular request interstate amateurs to get into touch with them with regard to conducting tests on five metres. The ultra-high frequency receiver being used by 2OD is of special interest, as harmonics from country amateur stations operating on the higher wave bands have been heard.

VK2ABT, Joe Buchanan, from Yerrinbool, N.S.W., certainly displays great enthusiasm; when being nominated as a prospective new member, he asked to be excused from attending the fortnightly meetings, because, having to motor-cycle for 50 miles, he would only be able to attend monthly!

Morse code classes are still being conducted by 2OW on Thursdays and intermediate Tuesdays, and by 2RL on 41.1 metres, Sundays, 9 to 9.40 p.m. It is anticipated that the club's transmitting strength will be added to very shortly, as several members sat for the last A.O.P.C. exam.

Short wave supers are becoming quite popular with club members. The districts from Marrickville to Bankstown are now quite congested, and such receivers appear to be the only practical way of overcoming interference. In these parts, the "ham" without a super is as bad off as a BCL with a crystal set.

All enquiries relative to club matters will receive the immediate attention of the Hon. Secretary.

Victorian Division

VICTORIAN KEY SECTION NOTES.

(By R. Were, 3DP.)

At the July meeting the annual election of officers was held. The nominees for chairman were 3MR, the retiring chairman, and 3OC. The voting for each being equal, and the chairman having the casting vote, 3OC was elected. Just too bad, Roy!

3DP was elected secretary.

The work of the retiring chairman and secretary was much appreciated by the members, it being their first time in office.

To create some interested at our meetings, it was suggested that those who are having trouble with their rigs, etc., put their troubles to the meeting in an attempt to have them solved. If the question is of sufficient interest, that someone offer to answer same in the form of a lecturette at the following meeting. So roll along, chaps, and have your worries solved. All hams have their little troubles. If you don't then your rig is not perking. Hi!

This Section is to hold a local contest in conjunction with the DASD contest, scoring to be one point for each D contact. Have a smack at it, chaps, for the D's have always supported our contests very solidly. Also don't forget that the prize for the winner is a 7m.c. xtal that really perks, donated by 3BQ.

SOME NEWS OF THE MONTH.

3MR.—Gone lone. Wked a couple of YL's and can't keep away from it, hi! This month's tall story:—Snow was QSO VK2- (Ex ZL?) on c.w. After having reached about 5(0) W perhaps, the VK2 suddenly dropped to 10 W. Per. and said, "Sorry, OM, but have lost my dot contact."

3OC.—When Ray keys on 7m.c. the lights in the house play naughty tricks. Try cutting down the K. watts, Ray.

3ZF had similar trouble. When Eric started the howling started by a couple next door. Their light was flashing on and off in their bedroom. Hi!

NOW READY! VEALLS NEW Catalog

Just off the press — right up to the minute — the biggest Radio and Electrical Catalog published in Australia.

76 Pages
500 Illustrations

Every page packed with illustrations and descriptive matter of interest to all Hams. Write for your copy today.

Merely enclose a 2d. stamp to defray postage — the Catalog is Free.

●
VEALLS
4 Big Stores

Everything Radio & Electrical

243-249 Swanston St., Melbourne
168 Swanston St., Melbourne
299-301 Chapel St., Prahran
3-5 Riversdale Rd., Camberwell
Cent. 8058 (6 lines), 10524,
Wind. 1605, W 5160.

3YO.—Poor man! Should be some cheap junk for sale soon, as Claude has taken on golf. Swap you a brassie for your SSS, om?

3VU.—QRA abt 100 yds. from 3MR. Boy, what fun! Hi!

3XQ and 3KC.—Don't hear much of these chaps of late. Suppose it's YL's agn.

3WE.—Congrats., Willie, on wkg the first QRR traffic in VK. 3WE and 3FL handled traffic for a few days during the recent floods in Gippsland, when all other communication was down. Good work, om's.

3TU.—Another ham in the limelight. He was QSO VK2GF, of Granites, who was wanting the flying doctor urgently for an injured miner. Some fast work by 3TU and the doc. was soon on his way. Hams are very handy at times, I guess.

3CX left his log home for the Etopia test so that 3DP could win. Thanks, Allan, I'll lend you those chokes when I get 'em.

3UK building new xmitters—one for 80 and 40m.x. and another for 20 and 10m.x. What do you do with your old ones, om?

Well, guess that's all at present, so, fellers, if you have got any dope, don't forget to shoot along. Always appreciated.

SHORT WAVE SECTION NOTES.

July 8th was the annual meeting of the group, and although a large number turned up, a great many of the old faces were missing.

The election of office-bearers resulted as follows:—President, Mr. G. Manning, 3XJ; Vice-President, Mr. H. Stevens, 3JO; Secretary, Mr. O. Davies.

3DH paid us a visit and gave a very instructive address on 56m.c. superhets. This was followed by a demonstration and QSO with 3CR.

Now that the group are firmly established on 56m.c. it is intended to start another round of visits to places of general interest (power-houses, studios, etc.). So roll up and get the dope on our activities.

Heard the other day that 3JH was going in for a system of modulation any day now. That so, Bob?

3XJ still putting out canned music, etc. Good sigs, o.m.

3WQ, not much heard of you, old man. What's doing?

3RQ also not very noisy of late. Come up and see us some time!

3JO putting 56m.c. sigs. all over Melbourne; R9 at that, too.

As there is a definite possibility that 56m.c. sigs. are travelling much further than we yet know, the group have arranged a system of reporting. Members hearing 56m.c. stations are asked to keep an accurate log, noting variations in strength when changes are made at the transmitting end. Then, if they will forward a copy to the group secretary (732 Dandenong-road, Murrumbeena, S.E.9), he will plot field strength maps for the individual transmitters.

The Secretary wants to hear from all the missing members. Shoot in notes of your doings to him and he will pass them on.

WESTERN DISTRICT NOTES.

(By VK3HG.)

News is very scarce this month, all stations seemingly inactive. Even 3NQ has failed to send along his monthly report lately. An old timer in 3GA, of Curdie's Vale, is active again on 7m.c., putting out a nice signal with self-excited rig. He is only six miles from 3JA, who recently moved to the bush. The latter has still to make his debut on the air from his new QRA. 3PG, who recently received his W.A.C. certificate, has not been heard for over a month. I've an idea there's a YL behind this inactivity, Norm.!

3TA and second operator called in on 3OW and 3HG recently on their way through this district. He is still putting over his excellent 250-metre transmissions, which are of really high quality. Is rather interested in five-metre work. 3DX has B-class strength and quality on 243 metres every Sunday. We are sorry to hear "the ham Mother," 3HM, has not been very well lately, and wish her a speedy recovery to health and strength.

3OW works patches of DX, but is generally inactive. 3HG mainly on 3.5m.c. with the locals and ZL's. This band is becoming increasingly popular with the 'phone men, and the C.W. man is hard put to it to find a clear spot. Why not use 160 metres? It is quite as good as 80 for local work and no QRM.

MALLEE NOTES. (By VK3ZK-VK3HX.)

As there have been no notes from this district for some time, it was decided by the gang to forward these notes.

Conditions on all bands for some time have not been so hot, but a big improvement is expected soon.

It would not be amiss here to mention that one of the most popular stations from this district is on the air again from Omeo, and, not satisfied with a little QRR work, is getting a fair share of QSO's.

These notes this month were written in a hurry, so something might be missing.

3EP.—Ted has AC now, and is putting a hefty sig. out on 80mx. Hasn't much luck on 7mc. Training XYL for ticket, hi!

3ZK gone xtal, and is building a new rig. Line-up 6A6 Jones exciter, 45 buffer link coupled to 801 in final, input 25 watts. We should hear you, Jim!

3CE.—Working DX on higher frequencies. Going to cover the ceiling wld Yank cards, hi, hi! Heard on 80 mx. Sundays.

3WN. — Gone xtal, but having trouble. Has a 2A5 for CO tube. Nice CW sig here.

3HN.—Haven't heard much of Mac lately.

3HR.—A new ham in Sea Lake, by name Charlie Roberts. Busy getting permanent rig going. Has a rotary converter.

3AI.—Frank is more or less inactive at the moment. Busy selling BCL sets, hi!

3LH.—At the moment keeping 3SH on the air.

3KR.—Inactive at the moment, waiting for AC mains.

3TL.—Hasn't been heard for some time; no doubt giving a good account of himself on HF.

3OR.—Still inactive waiting for his new super de luxe shack, hi!

3CG makes a big noise here on CW as putting over very nice fone.

3PX, of Mildura, was worked here lately.

3MK, also of Mildura, spends most of his time on 7mc. CW. Heard sometimes on 3.5m.c. fone.

3NN.—Herb does a lot of listening on 14mc. Heard 3.5 m.c. fone on Sundays.

3HX.—Mostly on 3.5m.c. as yet. Has now a rotary converter as is building

a new rig. 53 Jones exciter link coupled to 6P6 final suppressor grid modulated.

Some time ago we had the pleasure of a visit from 3XJ. George spent a week-end in Charlton. Took him on the Saturday to visit Mr. W. Sones, where George made a presentation to "Bill" of an 8-inch globe of the world from the Short Wave Group. Being present, I can assure the Group of Bill's delight with the gift. On the Sunday George 3HX as second op (3AI and second op were unable to go) went to Berriwillock to visit 3CE. On arriving there we were met by 3CE and the gang from Sea Lake, 3WN, 3HN, 3HR and a second op. After spending an FB afternoon the gang were entertained to tea by Mrs. McNally and OM. On Monday morning George departed for Swan Hill, where, according to accounts, that town was well and duly painted a bright red. Hi! Hi!

NORTHERN DISTRICT NOTES.

(By 3KR and 3TL.)

Northern District notes vry short this month. Both these scribes temporarily off the air, getting ready for coming change-over of town supply to AC. Then will they make a disturbance in the ether!

3OR also off the air for the present, moving into his new mansion. Has vry comfortable shack provided—"shack" (s) sri—control room. Contemplates building entirely new rig. Impressed with 3TL's new 5-tube super. Suggests he bulds him one like it, hi!

3KI also has build new 5-tube super. Had trouble wid it at first, motor-boating. Now claims it is better than 3TL's, which the latter won't admit. A challenge issued.

3KR also has the 5-tube super complex, and has the gear ready. Sri to scrap his useful, though unselective, "detector and two audios," which have made him famous for DX, but sez he can't work wid it while 3TL is Xmtg.

3TL sez "same to u!"

3CE and 3NN start up the usual Sunday morning sked of the Northern gang on 80 fone on Sunday mornings, and 3HX and 3WN and one or two others usually come in.

Hrd 3ZK on 80m. fone again. Really FB. Has been in doctor's hands. Nothing serious, but vry painful. Hpe ur alright again, Jimmy!

South Australian Division

(By VK5KL.)

The general meeting on 17th June was well attended, and Mr. Gray (58U) lectured on "Elementary Television." Following the meeting an auction sale was held of the remaining gear of the late Mr. Roberts (VK5WR), Mr. Launse Dean acting as auctioneer. Transmitters' meeting on 24th June. Although not a large attendance, great interest was taken in the lecture and demonstration of silver-plating xtals by Mr. G. Kempton (VK2CI). Many ideas are forthcoming for raising funds to provide trophies for the coming DX contest.

HAM NOTES AT RANDOM.

5SU managed to bid highest for a 50-watter. When?

5MK was anxious to get a 59 for tritet to drive his RK20. How about a xtal, Jack?

5MV managed two 46's. How long before u burn the plates out of these, George? 25 watts, hi!

5MD has a new xtal. Just too bad it's on top of mine, Doc.

5LG.—No word, and he was going to do great things at Wyalla. Must be married life!

5ZC has 5-metre super and xtal-controlled perk.

5BD bought a car and found it to be 5RP's old one. Building 5-metre gear in it.

5KD, now at Port Adelaide Police Barracks, would welcome 5-metre skeds. Come on, boys!

5HG still has a sig that sounds as old as ham radio itself.

5GP.—Hear he is home in bed again. Must be getting a habit, Graham.

5LP still re-building. Laurie has started work agn. FB, OM.

5XB seems to be getting out well.

5AF is now one of the Glenelg gang.

5IV, of Berri, hopes to be in VIA soon.

5JH heard grinding out records on 40 at nite. Turning BCL entertaining, Vic?

5TX worked 10 countries in a fortnight on 40. Not bad for 3 watts. Jim still holds pride of VK5's QRP king.

Now the 200-metre band is closed, guess 40 metres will become the publicity band. Guess will have to wave a Wouff-Hong over anyone who starts thinking they are commercial.

Well, here's hoping for the best!

Western Australian Division

It was a pleasure to see old 6RX back in Perth for a few days, after an absence of 20 months in New Guinea with airways there as operator at Wan. Stan. looked well, and enjoyed the surprise party some of the gang gave him.

6CB has been re-elected to the chair for the ensuing year, and 6GM takes over the easy job vacated by 6WS owing to pressure of business.

The local Bulletin issued monthly is now in the capable hands of two students, Mr. Longley and Mr. Wile, both going up for tickets next examination.

Too short a visit was had from 6JE during the month. Jim could not stop long enough in Perth to have a look at some shacks.

6MW has moved Q.R.A. and is putting up new 67-ft. sticks. At time of writing these notes one stick is up. If you want to know what the three are for, then ask Bill.

Fairish bit of 'phone going around just now, and Sunday is popular on 40 in daytime and 80 at night, when some good rag chews are conducted between country and city members. Conditions are really quiet for D.X. after dark, and thus they turn to 'phone. Even 80 metres has gone wonky, with QSB. in patches.

RESERVE NOTES.

Watches are being kept more regularly by the members here now, and we have to welcome 6A4 on the air. Stan. has overcome the power difficulty by installing a generator.

Conditions for interstate traffic skeds are poor, and 6BI, at Kalgoorlie, has been brought into service as a link.

The VME gang put over a nice signal Sunday mornings on 7,634 kcs. here, and can be heard every week-end.

6A3 has been too busy to keep watches last three weeks.

6A2 is rebuilding P.A., and discarded 46 tubes for a 210 variety. During course of rebuilding, 6Z1 had to take his watch.

6A5 is regular and keeps VIN busy.

6A6 will have fellow member close handy shortly when 6M2 gets his call.

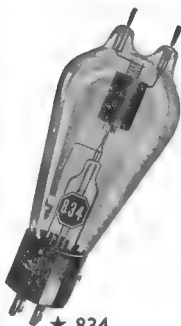
(Continued on page 28)



★ 6P6



★ 830-B



★ 834

THREE NEW RADIOTRONS

RADIOTRON 834, a triode suitable for ultra high frequencies, Plate Dissipation of 50 watts, Price £6/10/- net. . . .
RADIOTRON 6P6, an R.F. Power Pentode, Plate Dissipation of 10 watts, Price 16/- net. . . **RADIOTRON 830-B**, a triode with Plate Dissipation of 60 watts, Price £4/5/- net.

RADIOTRONS

(Advertisement of Amalgamated Wireless Valve Company)

V3 6

R.A.A.F. Wireless Reserve Notes

Officer Commanding: Flying Officer R. H. Cunningham, 397 High Street, Glen Iris, S.E.6, Victoria (VK3ML).

District Commanders—

Second District, N.S.W.—A. G. Henry, Clareville Avenue, Sandringham (VK2ZK).

Third District, Victoria—Pilot Officer V. E. Marshall, 3 Myrtle Avenue, Kew (VK3UK).

Fourth District, Queensland—A. E. Walz, Sandgate Road, Nundah (VK4AW).

Fifth District, South Australia—F. M. Gray, 52 Ormond Grove, Toorak Gardens (VK5SU).

Sixth District, West Australia—S. J. Madden, Dundas Road, Maylands (VK6MN).

Seventh District, Tasmania—R. Cannon, Goldie Street, Wynyard (VK7RO).

3rd DISTRICT NOTES.

(By VK3UK-3Z1.)

The main item of interest this month is the excellent work being done in the training section. The members are all very enthusiastic, and under the enthusiastic leadership and instruction of 3F9 are showing wonderful progress. In addition to the usual Sunday schedule they are running a mid-week one on Wednesday nights, and many of our regular members are making a special point of listening to the section in order to help solve some knotty points in their own procedure.

3BI is back on the air again with a new transmitter.

3B2 and 3B3, the old stalwarts of VMC2, are on as regularly as ever.

3B4 has been re-building his gear, and sometimes finds it difficult to keep a schedule with only part of the job finished.

3B5 has unfortunately had to resign owing to pressure of work. We are sorry to lose Bill.

3CI is back on the job again, and VMC3 are delighted to have him.

3C6 on crystal after many experiments with CO's. John had the nerve-rendering experience of having put his Reserve crystal into a match box, and then learning that the family had thrown the box away. However, the million to one shot came off, as a search through the rubbish tin brought it to light again.

3D3 is back on the job, and from the way he handles his traffic Doug. has lost none of his prowess on the key.

3D4 will be in his new home by the time this is in print, and will be on again.

3E6 has been transferred to Hordsham for a while, and although he will not be taking any portable gear with him, he will work some schedules from 3B3's shack.

3F4 has gone to Tasmania for a while, but hopes to take a receiver with him so that he can follow the Training Section schedules.

3Z1 has finished the first unit of the new transmitter. Line-up on Reserve frequency will be 53-10-50T. The broadcast had to be put out, using accumulators and a genemotor last Sunday, as the power was turned off.

Hamadvertisers! Note This

(To the Editor.)

Sir,—Received reply to-day to my "ham" advertisement inserted in April "Amateur Radio," and would like to record my appreciation. Did not like to hope too much, as W.A. is a long step, but "Amateur Radio" came through. Show this to your advertisers! Many thanks.—Es 73.

D. GROGAN.
Mt. Lawley, W.A.

(Continued from page 25)

6FL and 6RK waiting for finalization of enrolment also.

So VMF is looking up at last, with hopes of two sections very shortly. The mid-week watch on 3,817 has proved a washout owing to uncertain conditions lately—one week R6-7 signals and the next R1-3—which is not too happy a situation.

The gang here are sorry the proposed race to VME will not include this district. It should take the form of a Round-Australia Race, and give us some work to do over here.

Tasmanian Division

(By VK7JB.)

The usual monthly meeting was held at the club-rooms on Tuesday, July , with a fair attendance. After the general business concluded VK7JB delivered a lecture on "Operating Procedure," mainly for the benefit of the new and expectant hams. The Council met on 14th instant to deal mostly with re-allocation of 200-metre frequencies to avoid heterodyning B class stations in VK5 and 6 on late night sessions. After a lengthy discussion no definite plan was arrived at, so a sub-committee has been formed to discuss the matter with the Deputy Radio Inspector.

MEMBERS' DOINGS.

7YL.—Now on 40-metre fone, with PP 2A3's modulating 210 in final of 3-stage xtal. Latest experiments are with wave-traps for BCL's, hi! Got a habit of blowing electrolytics up, too, I believe.

7CL.—Another new one, also on fone. Tried grid modx, with rather painful results, and was supplanted with Heising using 45'PP with much better results. Got a YL second op, I believe, Merv. Hi!

7JH re-built his rig. Three-stage electron coupled osc. for 20 and 40m.x. Haven't hrd it yet, but understand he has chased the R.A.C. bug out of it. Fb, Jack, om.

7PA, I believe, has reduced R.C.A. stocks to the extent of two 800's, two 801's and three 866's! Guess I'll have to put in a xtal filter after all. Also applied for 100-watt permit. Don't tell me any more.

7KV amusing himself on 5 metres, but finding things quiet down there, except for a few harmonics of the locals on 40m.x. ND.

7LJ on 200 metres, and getting reports from interstate on late afternoon sessions.

7NC has a new receiver (or is it a deceiver, Nev.?), 5-tube super with regen. det. Found fone QRM too solid for det. and one.

7CT, a new ham located at Rokeby, is on 80m.x. with a 201A powered from a Genemotor. FB location, but no power.

7JA, another new one, hasn't started yet, but hopes to be on the air shortly with QRP.

7JB re-building amplifiers and modulator units to suit crystal pick-ups. Plenty of empty Aspro packets laying about the shack. Received 165 cards in one Yank mail.

7AB when last heard of was chasing bugs out of his speech amp. and modulators.

7AM.—Haven't hrd u lately, Les. What is it—YL, motor bike, or both?

7HY heard regularly down here with nice xtal note.

7RK.—Very quiet lately, Ray. Have been looking up the marriages and deaths in the papers, hi!

7LZ interested in 200 metres again, I believe. Will help 7BQ to amuse the B.C.L.'s in Launceston.

7KR, a new Northern ham, heard on 40 metres with a N.D.C. note. A trifle wobbly, om!

7RC and 7XL heard last Sunday a.m. with R. MAX fone down here. Found a clear spot on 200mx. yet, Ron? I believe u are tickled to death with B.C.L. reports, George.

Special Note to S.W. Listeners.—If you require a QSL card from a report, please enclose a twopenny stamp to cover return postage.

Well, chaps, time is short this month, and sorry if I have left you out, but c u next month.

The magazine committee takes pleasure in announcing that a prize of £1/1/- is to be donated by the N.S.W. Division as a prize for the best technical article received for publication in "Amateur Radio" up to 31st October, 1936. Send in your technical articles, o.m.'s, and make this contest a competitive affair. Thanks, o.m.'s.

TALKS TO U.S.A.

Mr. O. E. Cooper, of 51 Glenview-street, Paddington, N.S.W., a well-known Sydney radio experimenter (2CP), has been remarkably successful in establishing communication with "hams" in the United States. During the past month, operating on the 20-metres band, he has "worked" no fewer than 17, holding two-way telephone conversations in each case. Mr. Cooper uses the new Amalgamated Wireless Valve Company's 6P6 transmitting valve, which was designed and developed in Australia at the Company's works, and released about three months ago.

Hamads

Advertising space in these columns is available to those wishing to sell, buy or exchange, at 3d. per line; approximately five words to the line. Minimum charge, 1/-. To ensure insertion enclose postal note or stamps with copy, and address to the Advertising Manager, "Amateur Radio," 126 White Horse Road, Box Hill, E.11., Victoria.

BRIGHT STAR RADIO, VK3UH, 517 Lower Malvern road, Glen Iris, S.E.6. Crystals ground from best Brazilian Quartz and tested to 50 watts input to penthode oscillator accuracy ± 3 Kc, 200, 160 metre, 15/-; 80 metre, 10/-; 40 metre, £1/5/-; 465 KC, xtal gates, £2; Plug-in type holders, 7/6 each. Power transformers 300 watt, 2000 volts each side of centre tap at 150 milli-

amps, £5; Filament Transformers, up to six windings, 15/6. Receivers and Transmitters constructed. Call or write above address. Satisfaction guaranteed.

Limited number of T.C.C. Filter Condensers, 2 M.F.D., 1500 volts working, 15/6 each, 8-tube single signal super, complete with tube and separate power supplies. Condenser and coil sockets for R.F. First detector high frequency oscillator Isolantite National intermediate frequency transformers. Valves, two 57's, 5.58, one 2A5. Coils for 80's, 40's, 20's and 10 metres. Bargain, £16/10/-.

FOR SALE.—RK20 Practically new, £5. Heavy duty 400V, 200ma. tranny, 25/-. Filament tranny, 7.5V. 4A. 5V. 3A. 2½V. 4A. 2½V. 2A., 7/6. New Radiokes, CT200ma. choke, 30H., 14/-. Clock, 30H., 80ma., 10/-. All F.O.R., Luke Boga. Want Japarra sail for Moth class yacht. VK3KI.

FOR SALE.—6-Valve, 16-80 metre TRF Receiver, metal valves, highest grade British components, Signal indicator meter, Ferranti panel voltmeter. Power supply 600 volts. Unique British transformer and chokes. Suitable for transmitter use. £18. VK3DC.

WESTON multi-range 3½in. meter on bakelite panel, with multipliers and shunts for 15 ranges of D.C., Volts and Milliamps:—Volts 5, 10, 50, 100, 250, 750, 2500, at 1000 ohms. p.v. Mills. 1, 5, 10, 25, 50, 100, 250, 500, 1000. Scales 10, 50, 250, 750. Tested accurate. £4 or offer. Jewell thermo-ammeter, 0-1.5 amps., 25/-. Bruce Mann, Quambatook.

Specialty Bargains for Hams!

Ferranti AF3 Trans.	12/6;
Sheilded Flex 10/.010 Single,	6d per yard
" " " " Twin,	8d per yard
" " " " 3 core,	1/- per yard
" " " " 4 " "	1/3 per yard
" " " " 5 " "	1/8 per yard

These Prices are, Nett

TRAVELTONE RADIO PTY. LTD.

367 Bourke Street, Melbourne, C.1

Phone F 1869

AMATEURS!!

DO YOU QSL?

WE can supply you with QSL Cards printed in two colors on an attractively tinted board at—

12/6 for 250

17/6 " 500

27/6 " 1000

47/6 " 2000

or on the same board printed in one color only—

10/- for 250

12/6 " 500

17/6 " 1000

27/6 " 2000

We make your cards STAND OUT



Elsam Printing Coy.

1025 Whitehorse Rd, Box Hill, E.11

TELEPHONE WX 2429

Members W.I.A.

Elsam Printing Coy., Box Hill.